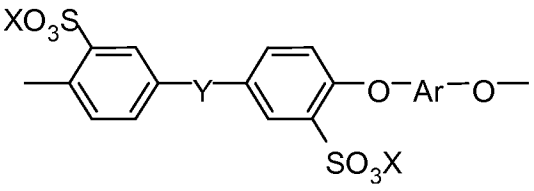
Amendments to the Claims:

Please amend the claims as follows:

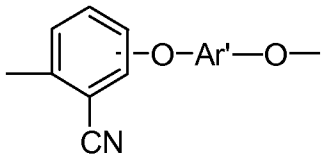
1. (Currently Amended) An electrolyte membrane-electrode assembly comprising a pair of electrodes and a hydrocarbon-based solid polymer electrolyte membrane sandwiched between and joined with the electrodes, the electrolyte membrane being ~~informed~~ formed using a poly(arylene ether)-based compound including a constituent represented by general formula (1) and a constituent represented by general formula (2):



(1)

,

wherein in general formula (1), Ar represents a divalent aromatic group, Y represents a sulfone group or a ketone group, and X represents H or a monovalent cationic group,



(2)

,

wherein in general formula (2), Ar' represents a divalent aromatic group;

wherein the glass transition temperature of the electrolyte membrane in a dry state is not lower than 160°C and the maximum water content (Wm) of the electrolyte membrane is within the range of from 10% to 45% or 70 to 120%, and the maximum water content is calculated from formula:

Wm = (Ww-Wd)/Wdx100(%)

using a weight (Ww) determined by immersing, in 25°C ultrapure water for 8 hours, the membrane after measurement of dry weight (Wd) of the membrane, wiping out water droplets attaching on a membrane surface, and then weighing

the membrane.

2. (Original) The electrolyte membrane-electrode assembly according to claim 1, wherein the periphery of each of the pair of electrodes is formed of a sealing member.

3. (Previously Presented) The electrolyte membrane-electrode assembly according to claim 1, wherein an electrolyte membrane is used which is a hydrocarbon-based ion exchange membrane having an ion exchange capacity (IEC) within the range of from 1.0 to 3.0 meq/g and exhibits a conductivity, measured under an atmosphere at 80°C and 95% relative humidity, of 0.01 S/cm or more, and in which electrolyte membrane the water absorption at 80°C (W80°C), the water absorption at 25°C (W25°C) and the ion exchange capacity (IEC) satisfy the following formula (1):

(W80°C/W25°C) < (IEC) + 0.05 (formula (1))

W80°C: water absorption (% by weight) at 80°C

W25°C: water absorption (% by weight) at 25°C

IEC: ion exchange capacity (meq/g).

4. (Currently Amended) The electrolyte membrane-electrode assembly according to claim 3, wherein an electrolyte membrane is used that comprises a sulfonic acid group-containing hydrocarbon-based solid polymer compound which is a hydrocarbon-based solid polymer having a sulfonic acid group content (an ion exchange capacity based on the polymer structure) of 2.0 meq/g or more and which exhibits a moisture absorption (λ), defined as the number of water molecules absorbed by said solid polymer per sulfonic acid group under an atmosphere at 80°C and 95% relative humidity, of a value less than ~~a relation~~ Y, wherein Y = (sulfonic acid group content) x 6 - 2.

5. (Previously Presented) The electrolyte membrane-electrode assembly according to claim 3, wherein an electrolyte membrane is used which

is a hydrocarbon-based ion exchange membrane having an ion exchange capacity within the range of from 1.0 to 3.0 meq/g and exhibits a conductivity, measured under an atmosphere at 80°C and 95% relative humidity, of 0.01 S/cm or more and in which the water absorption at 80°C of the electrolyte membrane (W80°C) and the ion exchange capacity satisfy the following formula (2):

$$W80°C < 4.0 \times (IEC)^{5.1} \quad \text{(formula (2))}$$

W80°C: water absorption (% by weight) at 80°C

IEC: ion exchange capacity (meq/g).

6. (Previously Presented) The electrolyte membrane-electrode assembly according to claim 3, wherein an electrolyte membrane is used which is a hydrocarbon-based ion exchange membrane having an ion exchange capacity within the range of from 1.0 to 3.0 meq/g and exhibits a conductivity, measured under an atmosphere at 80°C and 95% relative humidity, of 0.01 S/cm or more, and in which electrolyte membrane the water absorption at 80°C (W80°C), the water absorption at 25°C (W25°C) and the ion exchange capacity satisfy the following formula (3):

$$(W80°C/W25°C) \leq 1.27 \times (IEC) - 0.78 \quad \text{(formula (3))}$$

W80°C: water absorption (% by weight) at 80°C

W25°C: water absorption (% by weight) at 25°C

IEC: ion exchange capacity (meq/g).

7. (Previously Presented) The electrolyte membrane-electrode assembly according to claim 3, wherein an electrolyte membrane is used which is a hydrocarbon-based ion exchange membrane having an ion exchange capacity within the range of from 1.0 to 3.0 meq/g and exhibits a conductivity, measured under an atmosphere at 80°C and 95% relative humidity, of 0.01 S/cm or more, and in which electrolyte membrane the volume at 25°C and 65% relative humidity (V1), the volume after immersion in water at 25°C (V2) and the ion exchange capacity satisfy the following formula (4):

$(V2/V1) \leq 1.05 \times (IEC) - 0.38$ (formula (4))

V1: volume (cm^3) at 25°C and 65% relative humidity

V2: volume (cm^3) in 25°C water

IEC: ion exchange capacity (meq/g).

8. (Previously Presented) The electrolyte membrane-electrode assembly according to claim 1, wherein an electrolyte membrane is used which is a hydrocarbon-based ion exchange membrane having an ion exchange capacity within the range of from 1.0 to 3.0 meq/g and exhibits a conductivity, measured under an atmosphere at 80°C and 95% relative humidity, of 0.01 S/cm or more and in which the tensile breaking strength (DT) measured in 25°C water and the ion exchange capacity satisfy the following formula (5):

$DT \leq 135 - 55 \times (IEC)$ (formula (5))

DT: tensile breaking strength (MPa)

IEC: ion exchange capacity (meq/g).

9. (Previously Presented) The electrolyte membrane-electrode assembly according to claim 8, wherein an electrolyte membrane is used which is a hydrocarbon-based ion exchange membrane composed of a single compound and exhibits a tensile strength of 40 MPa or more under an atmosphere at 20°C and 65% relative humidity and also exhibits a tensile strength measured in 25°C water of 30 MPa or more.

10. (Previously Presented) The electrolyte membrane-electrode assembly according to claim 8, wherein an electrolyte membrane is used which is a hydrocarbon-based ion exchange membrane composed of a single compound and exhibits a tensile strength of 40 MPa or more under an atmosphere at 20°C and 65% relative humidity and which exhibits a difference between the tensile elongation measured in 25°C water and the tensile elongation measured in an atmosphere at 20°C and 65% relative humidity of 150% or less.

11. (Original) The electrolyte membrane-electrode assembly according to claim 8, wherein an electrolyte membrane is used which is a non-perfluorocarbon sulfonic acid-based hydrocarbon-based ion exchange membrane for fuel cells using liquid fuel and which electrolyte membrane exhibits a difference of 20% or less between the methanol permeation coefficients measured before and after the immersion of the ion exchange membrane in a 5 mol/l aqueous solution of methanol for 20 hours.

12. (Original) The electrolyte membrane-electrode assembly according to claim 11, wherein an electrolyte membrane is used which is a non-perfluorocarbon sulfonic acid-based hydrocarbon-based ion exchange membrane for fuel cells using liquid fuel, which electrolyte membrane exhibits a difference of 20% or less between the methanol permeation coefficients measured before and after the immersion of the ion exchange membrane in a 5 mol/l aqueous solution of methanol for 20 hours, and which electrolyte membrane has been subjected to a treatment of immersion in a solvent at a temperature of 80°C or higher.

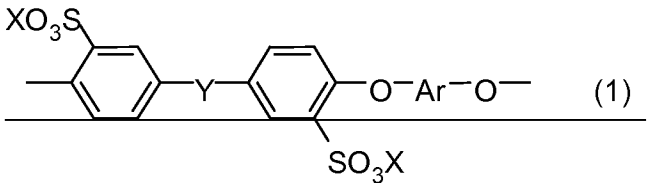
13. (Cancelled)

14. (Previously Presented) A fuel cell using the electrolyte membrane-electrode assembly according to any one of claims 1 to 12.

15. (Cancelled)

16. (Withdrawn; Currently Amended) A method for producing [[an]] the electrolyte membrane-electrode assembly of claim 1 by joining [[a]] the hydrocarbon-based solid polymer electrolyte membrane and [[a]] the pair of electrodes~~, the electrolyte membrane being informed using a poly(arylene~~

~~ether)-based compound including a constituent represented by general formula (1) and a constituent represented by general formula (2):~~



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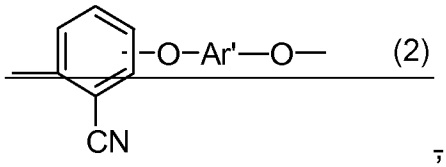
~~wherein in general formula (1), Ar represents a divalent aromatic group, Y represents a sulfone group or a ketone group, and X represents H or a monovalent cationic group,~~



;

~~wherein in general formula (2), Ar' represents a divalent aromatic group;~~

~~wherein the hydrocarbon-based solid polymer electrolyte membrane is joined with the electrodes~~ by hot pressing while the content of water contained in the hydrocarbon-based solid polymer electrolyte membrane is within the range of from 10 to 70% of the maximum water content of the hydrocarbon-based solid polymer electrolyte membrane.

17. (Withdrawn) The method for producing an electrolyte membrane-electrode assembly according to claim 16, wherein the hydrocarbon-based solid polymer electrolyte membrane is provided with moisture through the holding of the hydrocarbon-based solid polymer electrolyte membrane in an atmosphere where the humidity and/or the temperature is controlled.